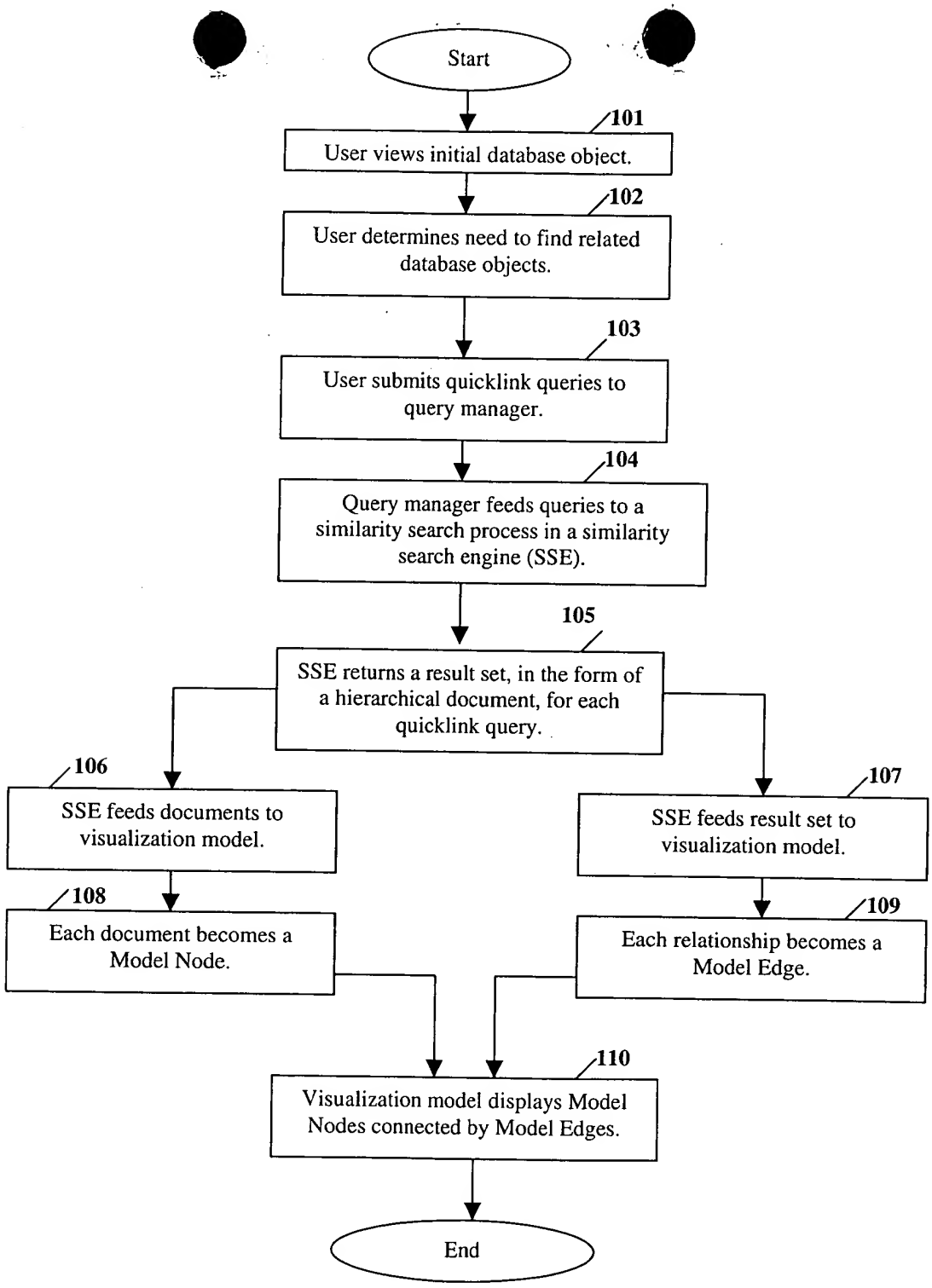
Start
101
User views initial database object.
102
User determines need to find related database objects.
103
User submits quicklink queries to query manager.
104
Query manager feeds queries to a similarity search process in a similarity search engine (SSE).
105
SSE returns a result set, in the form of a hierarchical document, for each quicklink query.
106
SSE feeds documents to visualization model.
107
SSE feeds result set to visualization model.
108
Each document becomes a Model Node.
109
Each relationship becomes a Model Edge.
110
Visualization model displays Model Nodes connected by Model Edges.
End

Fig. 1

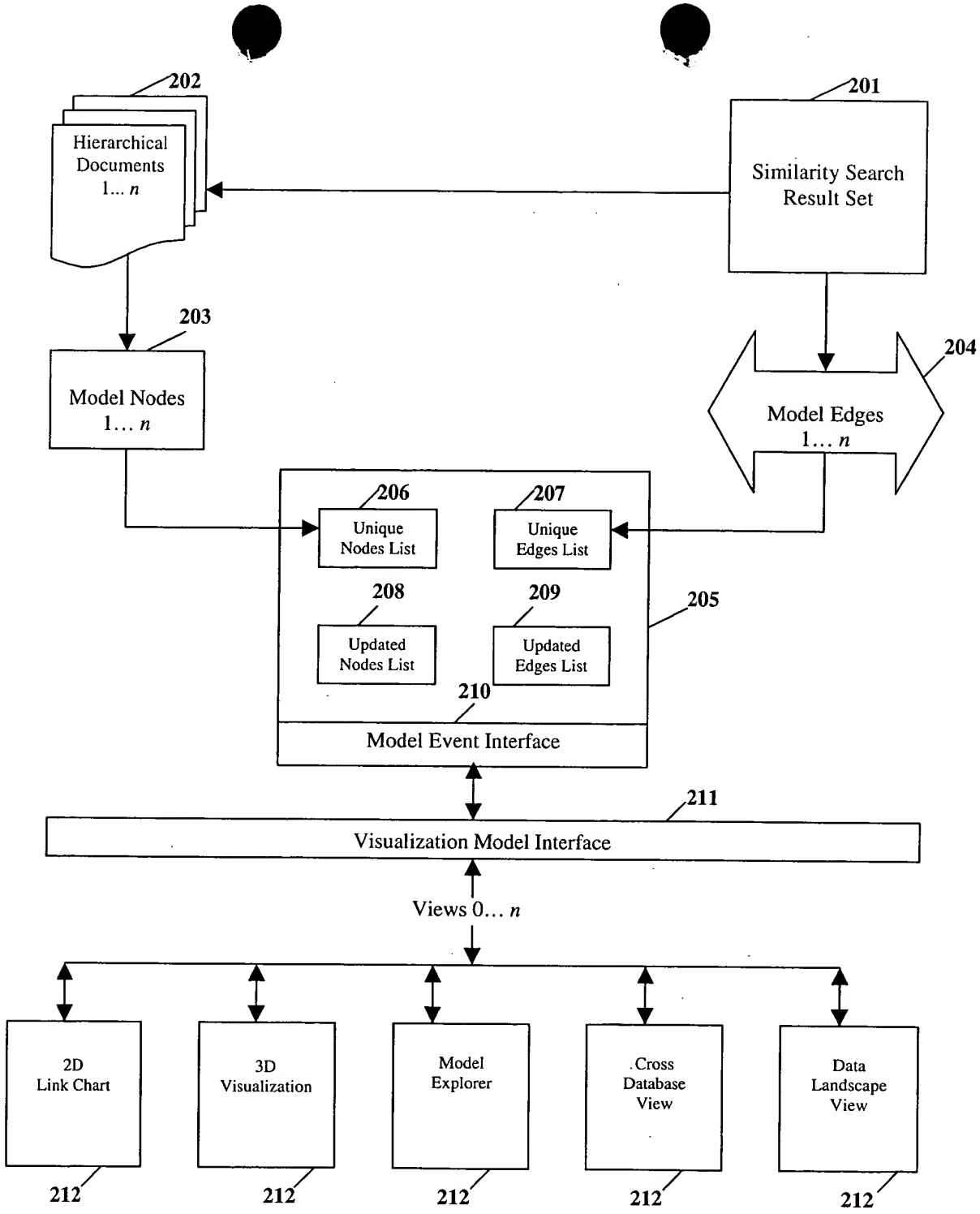
202
Hierarchical Documents 1... n
201
Similarity Search Result Set
203
Model Nodes 1... n
204
Model Edges 1... n
206
Unique Nodes List
207
Unique Edges List
208
Updated Nodes List
209
Updated Edges List
205
210
Model Event Interface
211
Visualization Model Interface
Views 0... n
2D Link Chart
3D Visualization
Model Explorer
Cross Database View
Data Landscape View
212
212
212
212
212

Fig. 2

301

MODEL NODE									
Form Item	Link Count	Group ID	Hidden Count	Locked	Caption	Color	Hierarch. Level	Selected	ID

302

MODEL EDGE									
From Node	From Node ID	To Node	To Node ID	Query List	Caption	Color	Visible	Selected	ID

Fig. 3

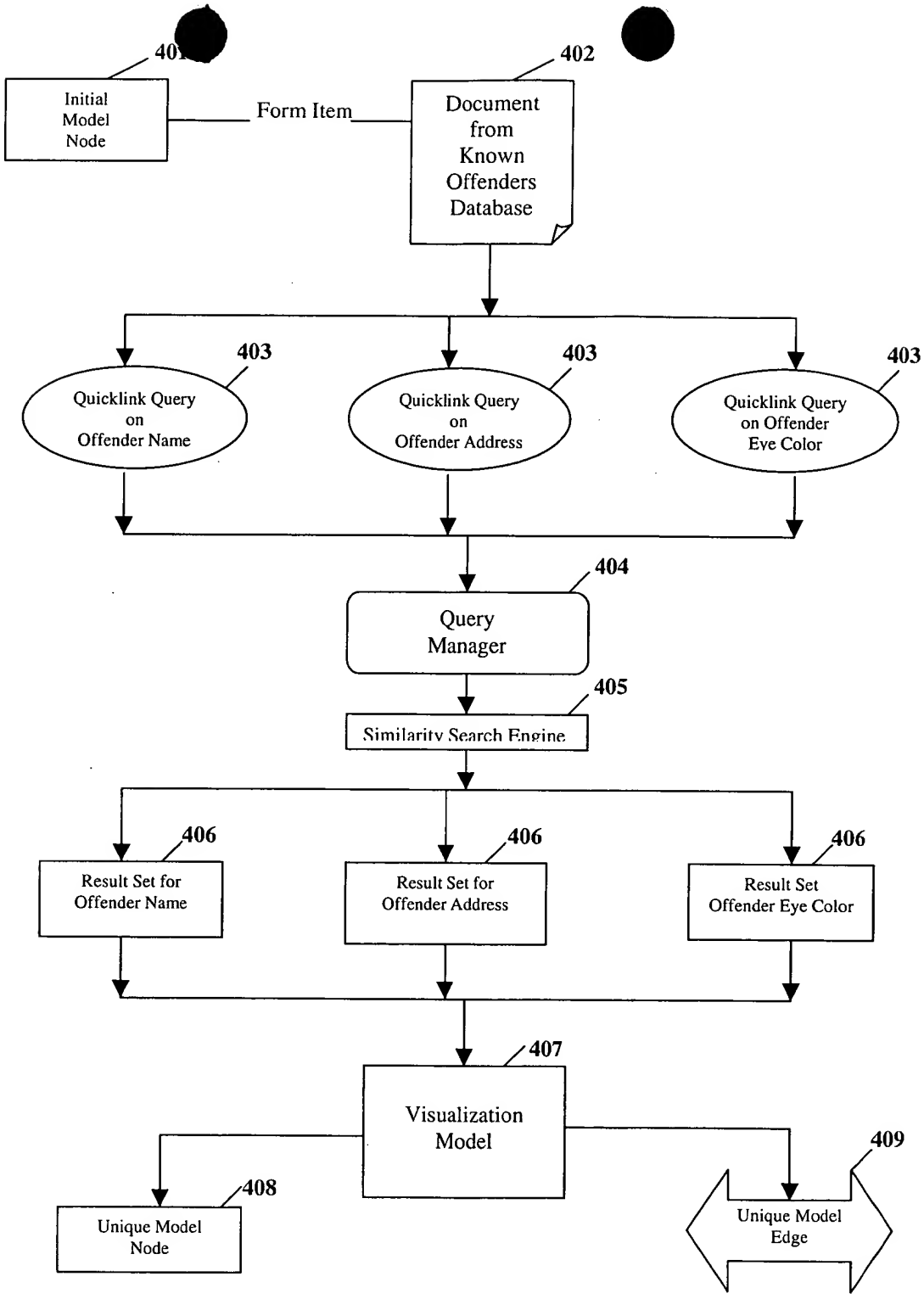
401
Initial Model Node
Form Item
402
Document from Known Offenders Database
403
Quicklink Query on Offender Name
403
Quicklink Query on Offender Address
403
Quicklink Query on Offender Eye Color
404
Query Manager
405
Similarity Search Engine
406
Result Set for Offender Name
406
Result Set for Offender Address
406
Result Set Offender Eye Color
407
Visualization Model
408
Unique Model Node
409
Unique Model Edge

Fig. 4

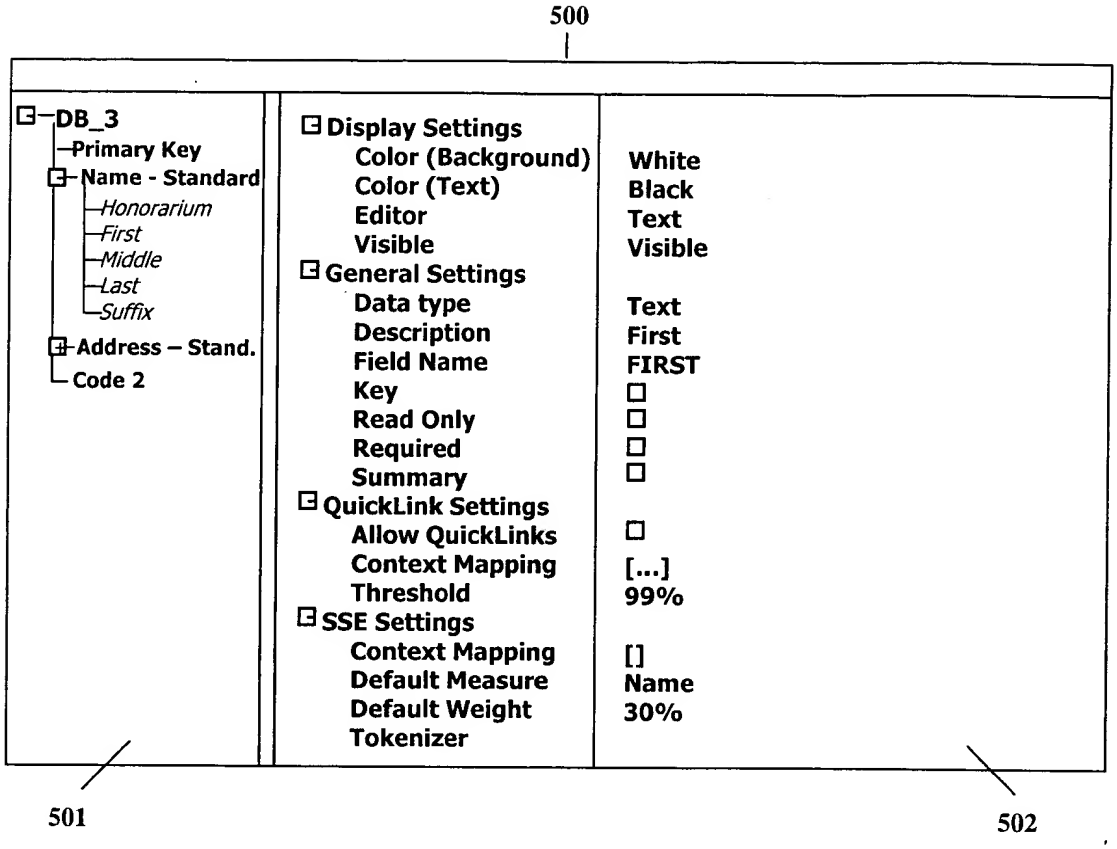
500
DB_3
Primary Key
Name - Standard
Honorarium
First
Middle
Last
Suffix
Address – Stand.
Code 2
Display Settings
Color (Background)
Color (Text)
Editor
Visible
General Settings
Data type
Description
Field Name
Key
Read Only
Required
Summary
QuickLink Settings
Allow QuickLinks
Context Mapping
Threshold
SSE Settings
Context Mapping
Default Measure
Default Weight
Tokenizer
White
Black
Text
Visible
Text
First
FIRST
[...]
99%
[]
Name
30%
501
502

Fig. 5

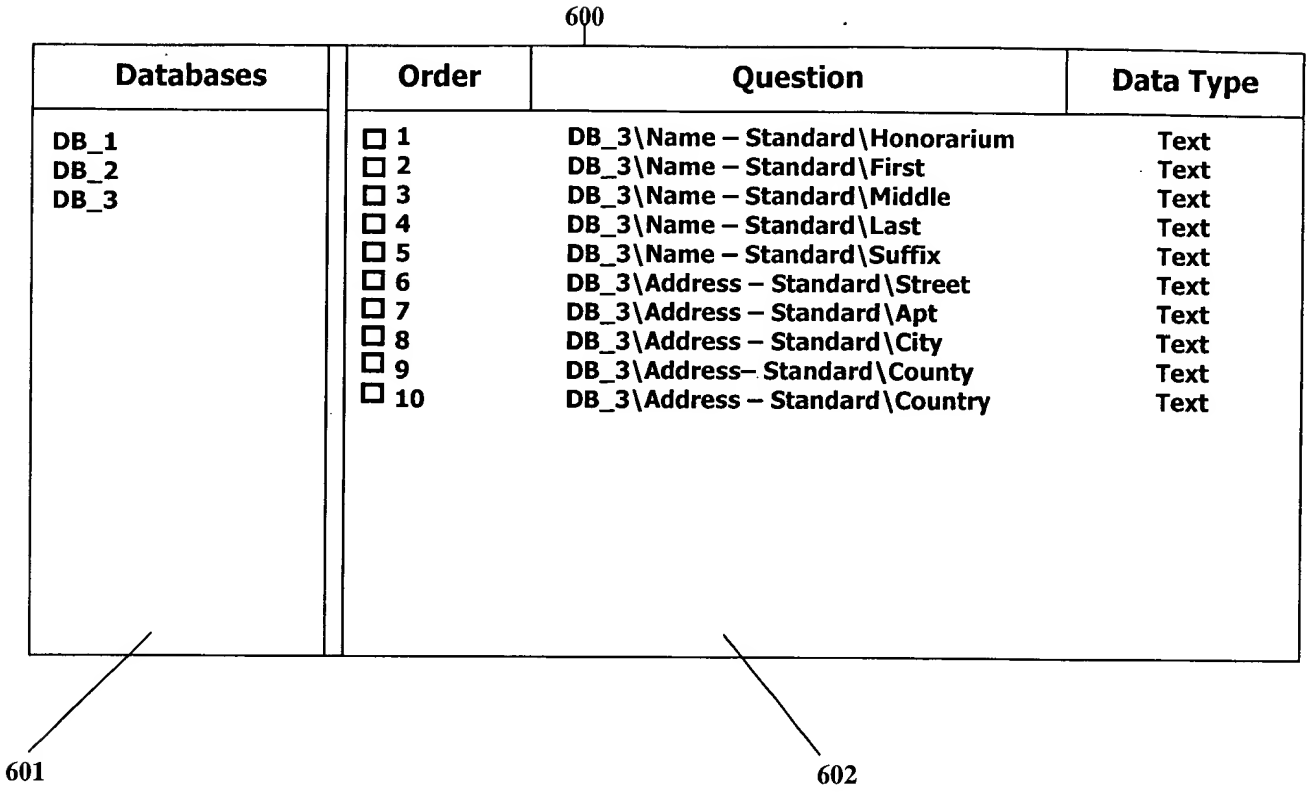

Fig. 6

D20040249690

700

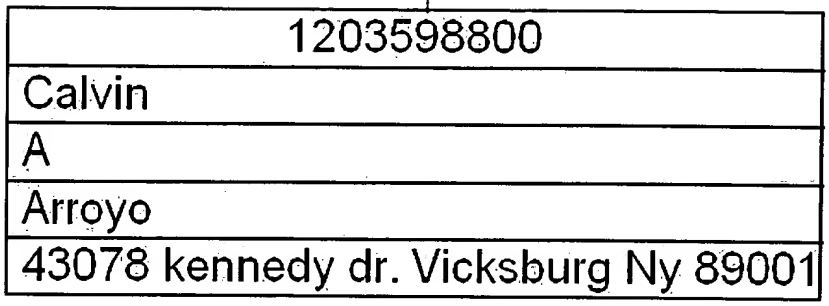
1203598800
Calvin
A
Arroyo
43078 kennedy dr. Vicksburg Ny 89001

Fig. 7

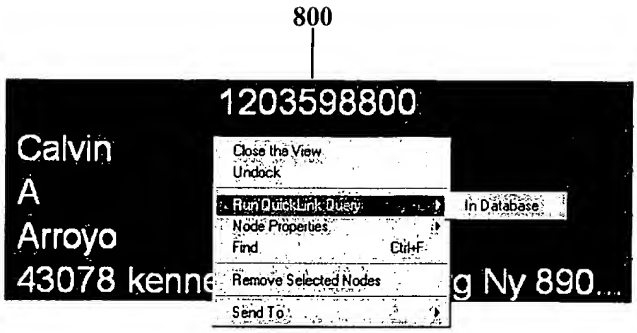
800
1203598800
Calvin
A
Arroyo
43078 kenne
g Ny 890...
Close the View
Undock
Run QuickLink Query
In Database
Node Properties
Find
Ctrl+F
Remove Selected Nodes
Send To

Fig. 8

900

Databases	Order	Question	Data Type
DB_3	☐ 1	DB_3\Name – Standard\First	Text
	☐ 2	DB_3\Name – Standard\Last	Text

Fig. 9

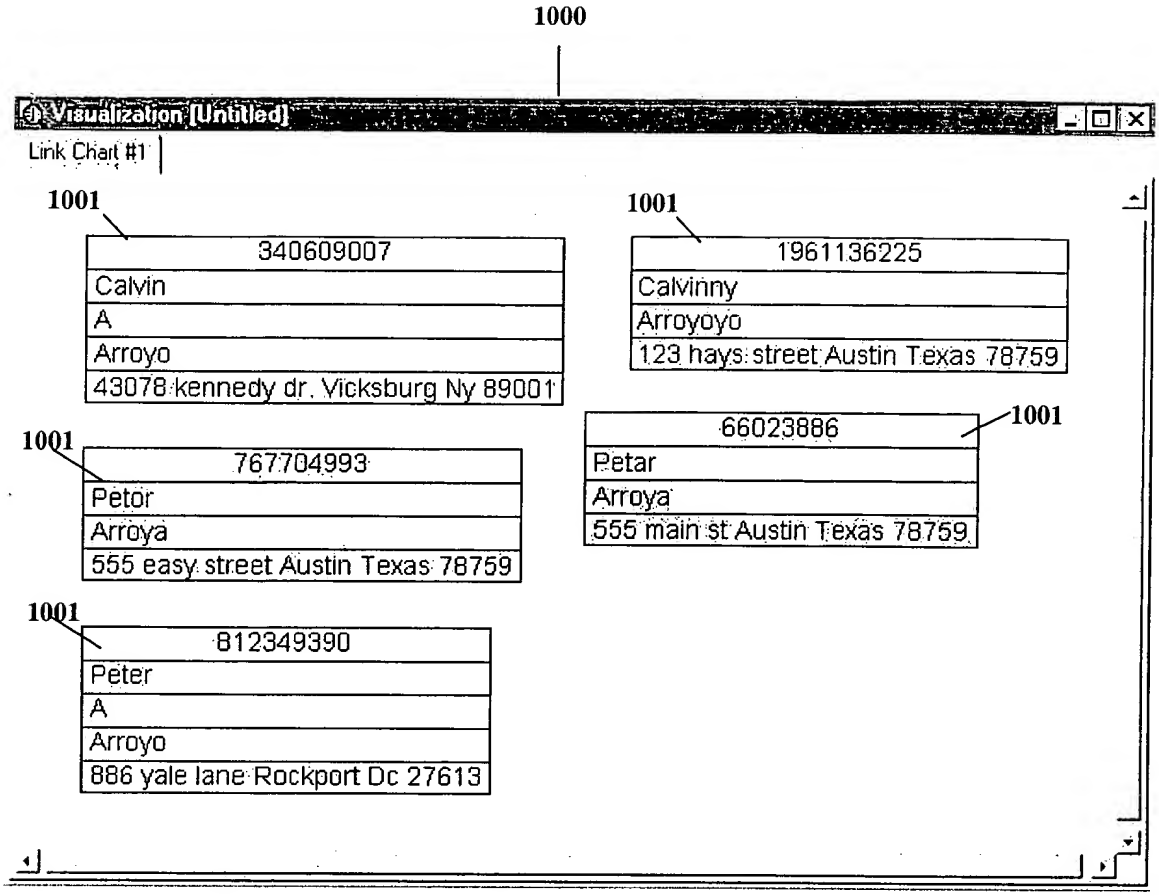
1000
Visualization [Untitled]
Link Chart #1
1001
340609007
Calvin
A
Arroyo
43078 kennedy dr. Vicksburg Ny 89001
1001
1961136225
Calvinny
Arroyoyo
123 hays street Austin Texas 78759
1001
767704993
Petor
Arroya
555 easy street Austin Texas 78759
1001
66023886
Petar
Arroya
555 main st Austin Texas 78759
1001
812349390
Peter
A
Arroyo
886 yale lane Rockport Dc 27613

Fig. 10

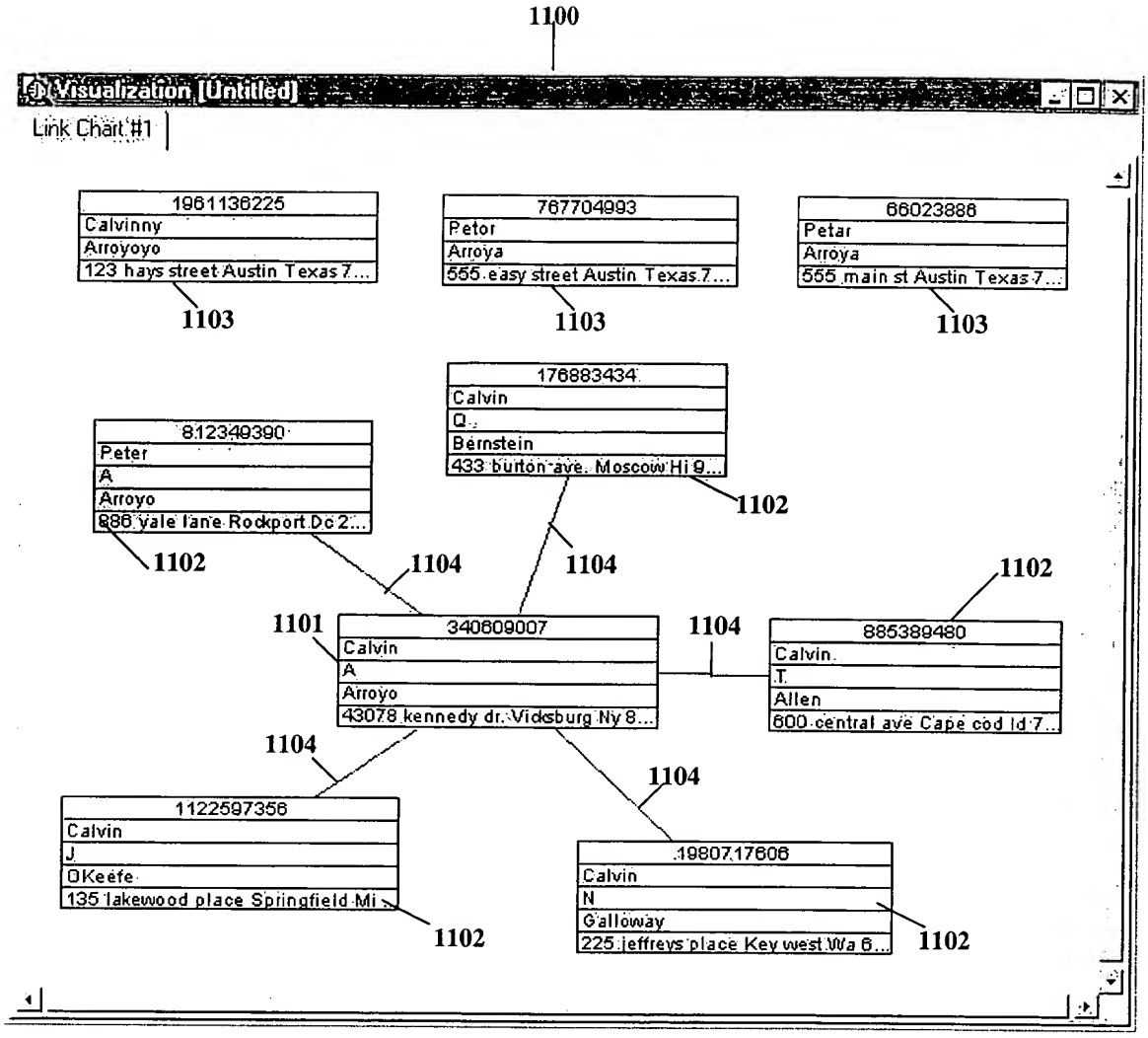
1100
Visualization [Untitled]
Link Chart #1
1961136225
Calvinny
Arroyoyo
123 hays street Austin Texas 7...
1103
767704993
Petor
Arroya
555 easy street Austin Texas 7...
1103
66023888
Petar
Arroya
555 main st Austin Texas 7...
1103
176883434
Calvin
Q
Bernstein
433 burton ave. Moscow Hi 9...
1102
812349390
Peter
A
Arroyo
886 yale lane Rockport Dc 2...
1102
1104
1104
1101
340609007
Calvin
A
Arroyo
43078 kennedy dr. Vicksburg Ny 8...
1104
885389480
Calvin
T
Allen
600 central ave Cape cod Id 7...
1102
1104
1122597356
Calvin
J
OKeefe
135 lakewood place Springfield Mi ...
1102
1104
19807.17606
Calvin
N
Galloway
225 jeffreys place Key west Wa 6...
1102

Fig. 11

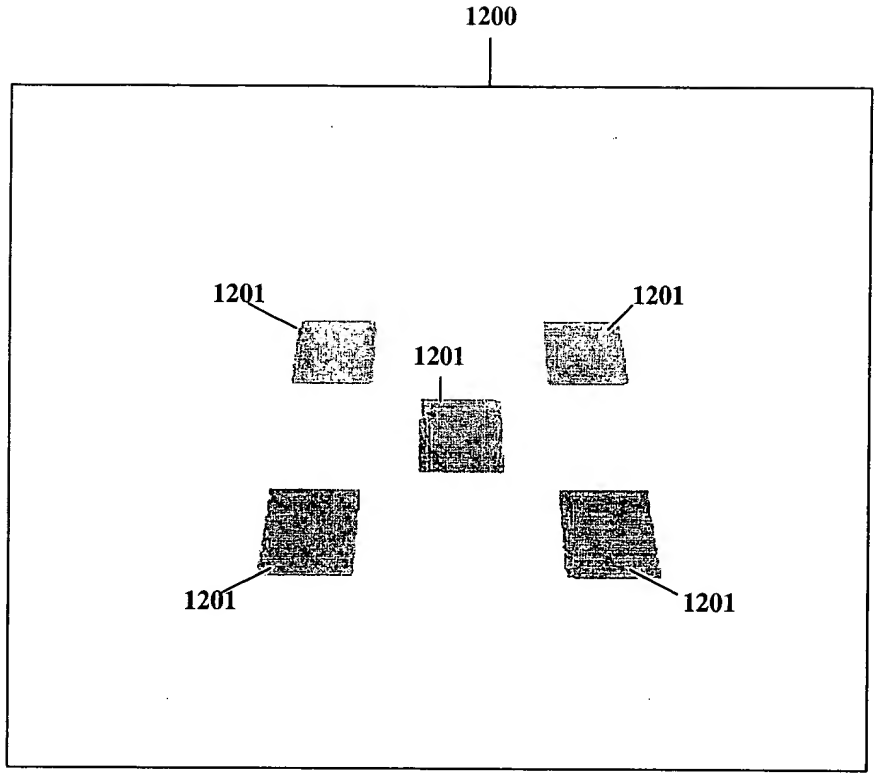

Fig. 12

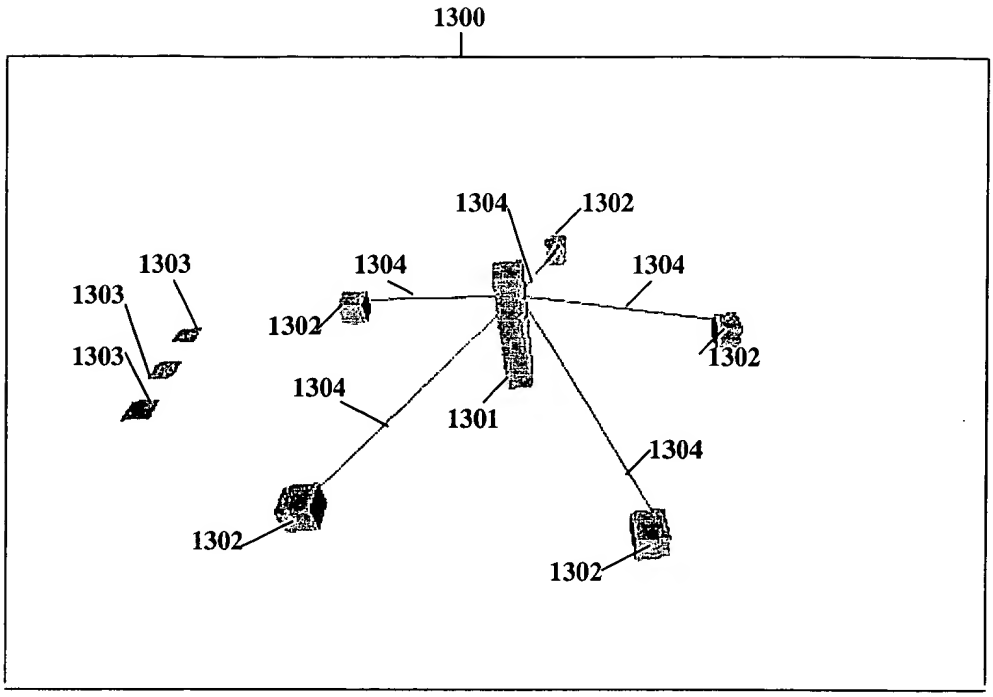
1300
1304
1302
1303
1304
1304
1303
1303
1302
1302
1304
1301
1304
1302
1302

Fig. 13

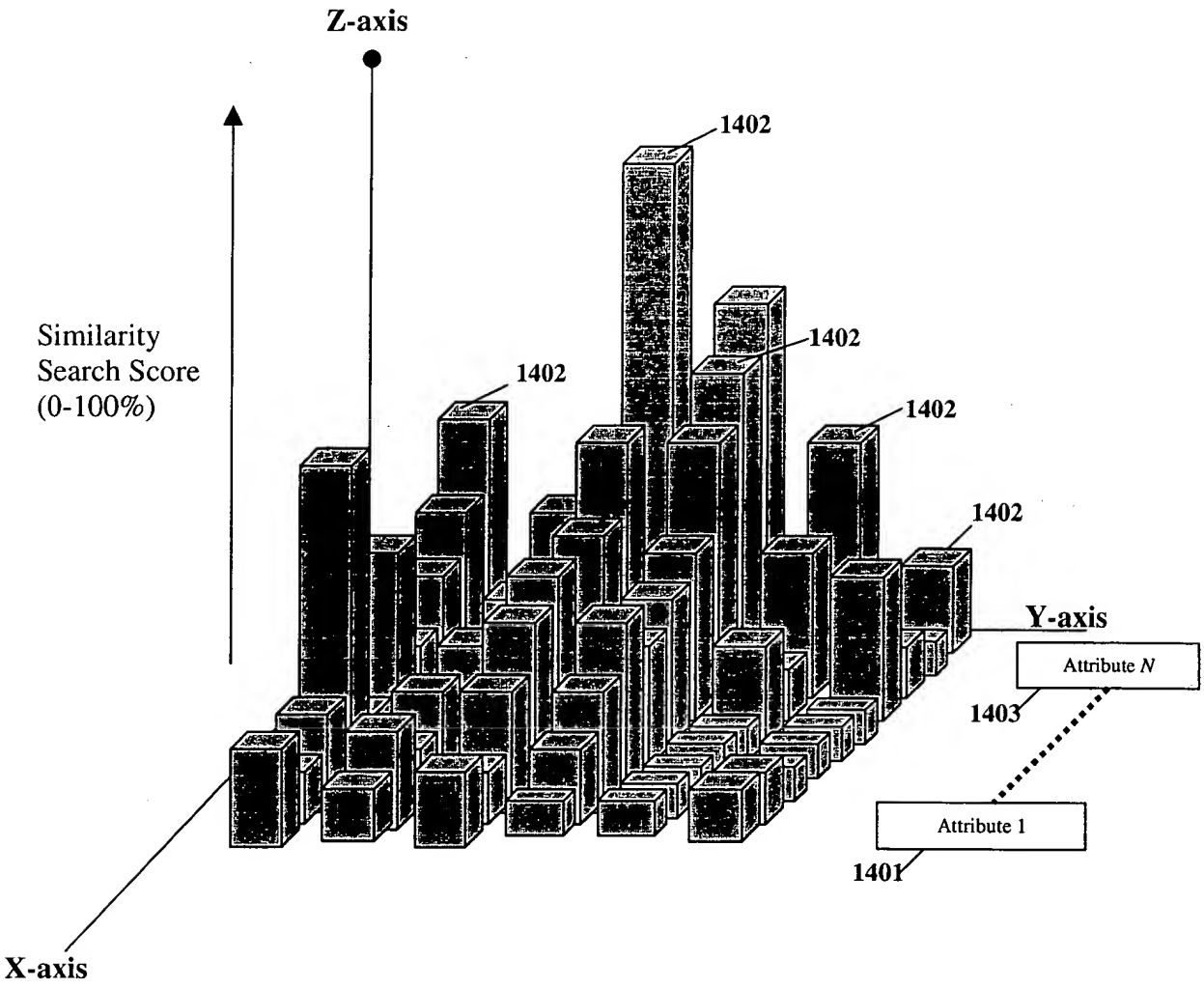
Z-axis
Similarity
Search Score
(0-100%)
1402
1402
1402
1402
Y-axis
Attribute N
1403
Attribute 1
1401
X-axis

Fig. 14

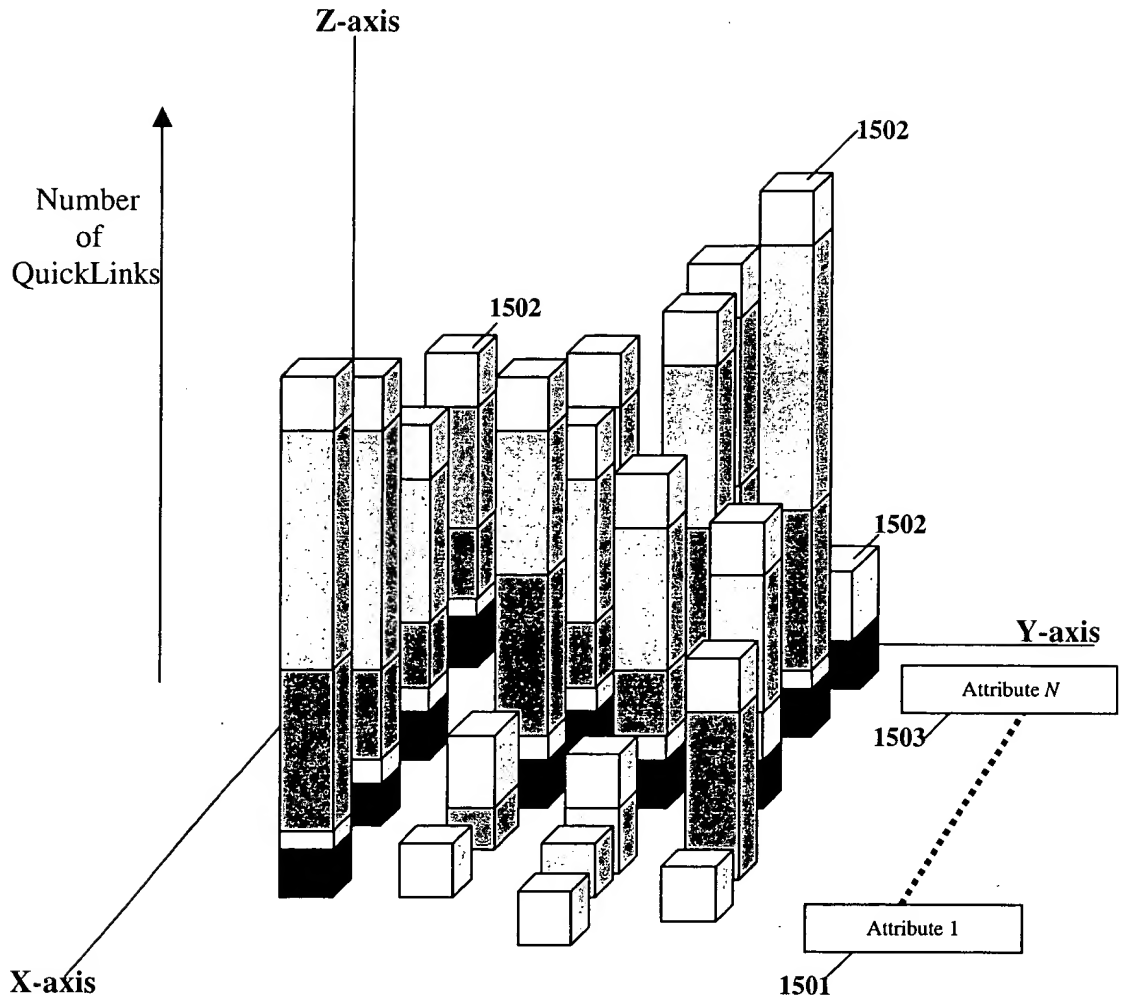
Z-axis
Number
of
QuickLinks
1502
1502
1502
Y-axis
Attribute N
1503
Attribute 1
1501
X-axis

Fig. 15